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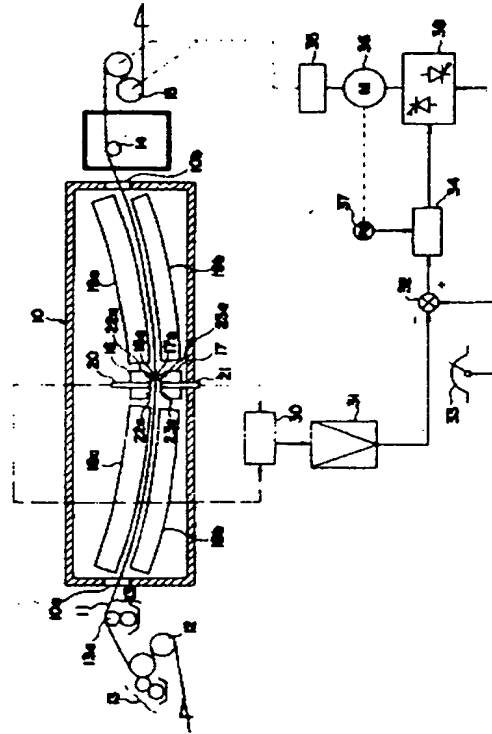
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TITLE : POSITION CONTROLLER FOR STRIP
IN CATENARY TYPE HEAT TREATING
FURNACE



ABSTRACT : PURPOSE: To suspend the strip stably in the furnace, by spouting the fluid from a couple of pressure patches attached at arbitrary place of the strip in the furnace, and by detecting the pressure difference between two fluids on purpose to control the drive of the bridge roller.

CONSTITUTION: The strip 11 is suspended at the catenary state in the main body of the furnace 10, and the high pressure fluid is spouted from openings 22a, 23a, bored in a couple of pressure patches 16, 17; hereby, the hydrostatic pressure is generated between the pressure patches 16, 17, and front and back faces of the strip 11. This hydrostatic pressures are inputted to the pressure-electric transducer 30, which then produces the electric signal corresponding to the pressure difference, and inputs the amplified signal to the comparator 32; the comparator 32 produces the deviation signal obtained from the input and the set signal. This signal is inputted to the speed regulator 34 which operates the speed command corrected by the signal produced from the pulse generator 37 and inputs it to the motor controller 38; hereby, the bridge roll 15 is driven to rotate through the motor 36 and the reduction gear 35. By this bridge roll 15, the lowest part of the strip 11 is vertically shifted for stabilizing the position of the strip 11.

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